UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/652,020	08/29/2003	Igor I. Ageyev	TUC920030062US1	9668

49080 7590 12/20/2006	EXAMINER
DALE F. REGELMAN	RAMPURIA, SATISH
4231 S. FREMONT AVENUE	

ART UNIT	PAPER NUMBER
2191	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/20/2006	PAPER

DALE F. REGELMAN
4231 S. FREMONT AVENUE
TUCSON, AZ 85714

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

	Application No.	Applicant(s)
Office Action Summary	10/652,020	AGEYEV ET AL.
	Examiner	Art Unit	
	Satish S. Rampuria	2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 August 2003*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All   b)☐ Some *   c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date *8/29/03*.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   This action is in response to the application filed on August 29, 2003.

2.   Claims 1-16 are pending.

Information Disclosure Statement

3.   An initialed and dated copy of Applicant's IDS form 1449 filed on August 29, 2003

is attached to the instant Office action.

Oath/Declaration

4.   The Office acknowledges receipt of a properly signed oath/declaration filed August

29, 2003.

Claim Objections

5.   Claim 12 is objected to because of the following informalities: word "usable with a" is

twice in the preamble. Appropriate correction is required.

Claim Rejections - 35 USC § 101

6.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or
> any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
> requirements of this title.

7.   Claim 12-16 rejected under 35 U.S.C. 101 because the claimed invention is directed to

non-statutory subject matter.

Claim 12 is non-statutory because the language of the claim raises a question as to

whether the claim is directed merely to an abstract idea which would result in a practical

application producing a concrete, useful, and tangible result to form the basis of statutory

subject matter under 35 U.S.C. 101. Claim recites computer program produce... having

computer readable program code, representing functional descriptive material without a

computer readable storage medium or a memory, program code per se are not tangibly

embodied. Claims 13-16 are directly or indirectly dependent on claim 12 and further

support recites computer program produce... having computer readable program code

without a computer readable storage medium or a memory, program code per se are not

tangibly embodied thus amounts to only abstract idea and are nonstatutory.

Claim Rejections - 35 USC § 102

8.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the
United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by
another filed in the United States before the invention by the applicant for patent, except that an international
application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an
application filed in the United States only if the international application designated the United States and was
published under Article 21(2) of such treaty in the English language.

7-9
9.   Claims 1-3 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by US

Publication No. 2002/0129339 to Callahan, II et al. (hereinafter, Callahan).

Per claim 1:

Callahan discloses:

- A method to generate a formatted trace for a second device embedded in a first device, comprising the steps of:

- providing source code comprising a trace entry (paragraph [0040] "...generate the trace information...target source code of interest is compiled");

- compiling by said first device said source code to form a second device code image comprising a trace description string and a trace description string address (paragraph [0040] "target source code of interest is compiled... executing the resulting executable code will generate execution trace information... event stores trace information related to a variety of performance measures...");

- assigning said trace description string address as the traceId (paragraph [0105] "...Each event entry... being an Event ID, the address of the descriptor object to which the event corresponds");

- creating a database comprising said trace description string and said trace description string address (paragraph [0040] "...Each event stores trace information related to a variety of performance measures for the one or more processors and protection domains used...");

- uploading said second device code image to said second device (paragraph [0040] "Each event stores trace information related to...one or more processors and protection domains used");

- generating trace data using said second device code image (paragraph [0040] "...generating a variety of trace information...during execution of the task");

- downloading said trace data to said first device (paragraph [0040] "Each event stores trace information related to...one or more processors and protection domains used");

- merging said trace data and said database (paragraph [0040] "The trace information description file contains information that describes the types of execution events as well as the structure of the stored information"); and

- forming a formatted trace (paragraph [0040] "system uses the trace information description file... to extract and format trace information for display...").

Per claim 2:

The rejection of claim 1 is incorporated and further, Callahan discloses:

- wherein said uploading step and said generating step further comprise the steps of: forming a stripped code by removing said trace description string from said second device code image (paragraph [0040] "system uses the trace information description file to organize the information in the trace information file, extracts (strips) a variety of types of performance measure information from the organized trace information, and formats the extracted information for display", emphasis added);

- uploading said stripped code to said second device (paragraph [0040] "...generating a variety of trace information...during execution of the task");

- generating trace data using said stripped code (paragraph [0040] "system uses the trace information description file... to extract and format trace information for display...").

Per claim 3:

The rejection of claim 1 is incorporated and further, Callahan discloses:

- providing trace directives (paragraph [0058] "executing code to generate trace

    information...adding an appropriate compiler directive... ");

- detecting said trace entry (paragraph [0040] "...generate the trace information...target

    source code of interest is compiled");

- forming a trace statement using said directives and said trace entry (paragraph [0058]

    "When the source code is compiled, the compiler directive will instruct the compiler to

    add the appropriate code for the sample point at that location").

Claims 7-9 are the computer product claim corresponding to method claims 1-3

respectively, and rejected under the same rational set forth in connection with the rejection

of claims 1-3 respectively, above.

Claims 12-14 are the computer product claim corresponding to method claims 1-3 respectively,

and rejected under the same rational set forth in connection with the rejection of claims 1-3

respectively, above.

Claim Rejections - 35 USC § 103

10.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section
102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the
subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill
in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the
invention was made.

11.   Claims 4, 5, 6, 10, 11, 15, and 16 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Callahan in view of US Publication No. 2005/0028145 to Kang et al.

(hereinafter, Kang).

Per claim 4:

Callahan does not explicitly disclose providing a trace entry comprising a trace macro;

replacing by said pre-processor said trace macro with a function call using said directives.

However, Kang discloses in an analogous computer system providing a trace entry

comprising a trace macro (paragraph [0020] "error trace statements may be macros inserted");

replacing by said pre-processor said trace macro with a function call using said directives

(paragraph [0020] "error trace statements may be macros inserted into the source code so that

the entire error trace in a library may be easily reduced to no-ops at compile time... an error

trace in a debug build may have more function calls recorded for a call path than in an

optimized build").

Therefore, it would have been obvious to a person of ordinary skill in the art at the

time the invention was made to incorporate the method of providing a trace entry

comprising a trace macro; replacing by said pre-processor said trace macro with a function call

using said directives as taught by Kang into the method of generating a formatted trace as

taught by Callahan. The modification would be obvious because of one of ordinary skill in

the art would be motivated to provide a trace entry with a trace macro and replacing with

a function call to provide a flexible error trace mechanism as suggested by Kang

(paragraph [0006-0007]).

Per claim 5:

The rejection of claim 4 is incorporated and further, Callahan discloses:

- further comprising the step of forming said trace statement by said compiler using said

  directives (paragraph [0058] "executing code to generate trace information...adding an

  appropriate compiler directive... ").

Per claim 6:

Callahan discloses:

- writing said trace data to said trace buffer (paragraph [0040] "...The trace information

  description file contains information that describes the types of execution events as well

  as the structure of the stored information...");

Callahan does not explicitly disclose detecting an error in said second device; discontinuing

writing trace data to said trace buffer.

However, Kang discloses in an analogous computer system detecting an error in said

second device (paragraph [0028] "getErrorTrace( ) returns the current thread's current error trace

in string format..."); discontinuing writing trace data to said trace buffer (paragraph [0028] "a

C/C++API internal function may decide when or whether to record an error trace element in the

error trace in case of an error").

Therefore, it would have been obvious to a person of ordinary skill in the art at the

time the invention was made to incorporate the method of detecting an error in said second

device; discontinuing writing trace data to said trace buffer as taught by Kang into the method

of generating a formatted trace as taught by Callahan. The modification would be obvious

because of one of ordinary skill in the art would be motivated to detect an error and

discontinue to write trace data in to a trace buffer to provide a flexible error trace

mechanism as suggested by Kang (paragraph [0006-0007]).

Claims 10 and 11 are the computer product claim corresponding to method claims 4 and 5

respectively, and rejected under the same rational set forth in connection with the rejection

of claims 4 and 5 respectively, above.

Claims 15 and 16 are the computer product claim corresponding to method claims 4 and 5

respectively, and rejected under the same rational set forth in connection with the rejection

of claims 4 and 5 respectively, above.

Conclusion

12.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to **Satish S. Rampuria** whose telephone number is **(571) 272-

3732**. The examiner can normally be reached on **8:30 am to 5:00 pm** Monday to Friday

except every other Friday and federal holidays. Any inquiry of a general nature or relating

to the status of this application should be directed to the **TC 2100 Group receptionist:**

571-272-2100.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, **Wei Y. Zhen** can be reached on **(571) 272-3708**. The fax phone number for the

organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status information

for unpublished applications is available through Private PAIR only. For more information

about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on

access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-

217-9197 (toll-free).

Satish S. Rampuria
Patent Examiner/Software Engineer
Art Unit 2191

WEI ZHEN
SUPERVISORY PATENT EXAMINER